

Abstract of the Invention

This invention relates to processes for converting oxygenates to olefins and olefins to polyolefins. The processes include a step of pretreating molecular sieve used in the conversion of oxygenate to olefin with a dimethyl ether composition. Fresh or regenerated molecular sieve, which is low in carbon content, is contacted or pretreated with the dimethyl ether composition to form a hydrocarbon co-catalyst within the pore structure of the molecular sieve, and the pretreated molecular sieve containing the co-catalyst is used to convert oxygenate to a lighter olefin product.